

REMARKS

Claims 1, 20, 21, and 23-29 are pending in the above-identified application.

Issues Under 35 U.S.C. 103(a)

Claims 1, 20, 21 and 23-28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hague '022 (USP 4,598,022) in view of "Applicant's admission" (page 3, second paragraph of specification).

Claim 24 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hague '022 in view of "Applicant's admission", and further in view of Hague '641 (USP 4,588,641).

Claim 29 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Hague '022 in view of "Applicant's admission", and further in view of Kleeberg '290 (USP 5,089,290).

Distinctions between Present Invention and Hague '022

Hague '022 discloses a one-step plasma treatment process in which a substrate material is coated with a plasma of a mixture of a polar containing organic species and at least one of nitrogen and hydrogen as noted at column 2, lines 41-44. Hague '022 discloses that an apparatus 10 used for this treatment includes a vacuum

chamber 12 having two electrodes 16 and 18 together with a substrate material 14, wherein the electrodes are connected to an external power source 20. It is clear that the substrate material 14 is described as an element separate from either of the two electrodes 16 and 18. Haque '022 further discloses at column 4, lines 29-39 that the electrodes may be both connected to an external power source 20 which, "... may be either any suitable conventional DC source or any suitable conventional AC source known in the art. An AC source is preferred because films deposited from DC glow discharge systems are generally poor and difficult to reproduce." Haque '022 further discloses at column 2, lines 54-57 that, "A source of a polar containing organic species that forms a stable compound with the substrate material may be placed in close proximity to or in contact with one of the electrodes." Haque '022 further discloses at column 3, lines 16-28 that the polar containing organic species is preferably formed from azole compounds, such as benzotriazole, toluenetriazole, N-vinyl carbazole and acetyl carbazole.

Haque '022 fails to disclose or suggest using an unsaturated aliphatic hydrocarbon monomer gas or a fluorine-containing monomer gas as a polymerizable gas in the described treatment method. Thus, Haque '022 fails to provide any basis for asserting *prima*

facie obviousness against any of the claims of the present application. Therefore, patentable distinctions exist between the present invention and Haque '022. In this regard, it is noted that the Office Action asserts that "Applicant's admission" at page 3 of the specification supports a conclusion that it would have been obvious to use any type of monomer to form the plasma employed in the present invention, regardless of whether the monomer was an unsaturated aliphatic hydrocarbon or fluorine-containing monomer gas used in the present invention, or a "source of a polar, containing organic species" described in Haque '022. This conclusion in the Office Action is completely incorrect. There is no objective evidence anywhere supporting a conclusion that the polymeric gases used in the method of the present invention are equivalent to the polar containing organic species disclosed in Haque '022. There is no evidence that the plasmas formed from each of these two different monomeric sources are equivalent. In fact, it does not make any sense that Haque '022 would specifically prefer polar containing organic species, such as azole compounds, other than to form a plasma having different properties than a plasma formed from a non-polar source, such as an unsaturated aliphatic hydrocarbon monomer as used in the method of the present invention. Haque '022 fails to provide any basis whatsoever for

alleging prima facie obviousness against any of the claims of the present application such that the above-noted rejections should all be withdrawn.

Haque '022 also fails to disclose or suggest the elimination of one of the two electrodes in favor of using the substrate to be coated in place of one of the electrodes. In this regard note that according to MPEP 2144.04 the omission of an element with retention of the element's function is an indication of nonobviousness.

"In re Edge, 359 F.2d 896, 149 USPQ 556 (CCPA 1966) (Claims at issue were directed to a printed sheet having a thin layer of erasable metal bonded directly to the sheet wherein said thin layer obscured the original print until removal by erasure. The prior art disclosed a similar printed sheet which further comprised an intermediate transparent and erasure-proof protecting layer which prevented erasure of the printing when the top layer was erased. The claims were found unobvious over the prior art because although the transparent layer of the prior art was eliminated, the function of the transparent layer was retained since appellant's metal layer could be erased without erasing (the printed indicia.)."

In addition to the above, MPEP 2144.04 also states that the omission of an element and its function may be obvious if the function of the element is not desired. The claimed invention does not use an additional anode electrode, but employs the substrate itself as the anode. This undermines the reasoning stated in the Office Action which urges that both an element and its function may be omitted, even though in the present situation the function of the anode has not been omitted.

"Ex parte Wu, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) (Claims at issue were directed to a method for inhibiting corrosion on metal surfaces using a composition consisting of epoxy resin, petroleum sulfonate, and hydrocarbon diluent. The claims were rejected over a primary reference which disclosed an anticorrosion composition of epoxy resin, hydrocarbon diluent, and polybasic acid salts wherein said salts were taught to be beneficial when employed in a freshwater environment, in view of secondary references which clearly suggested the addition of petroleum sulfonate to corrosion inhibiting compositions. The Board affirmed the rejection, holding that it would have been obvious to omit the polybasic acid salts of the primary reference where the function attributed to such salt is not desired or required, such as in compositions for providing corrosion resistance in environments which do not encounter fresh water.). See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) (Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired.); and *In re Kuhle*, 526 F.2d 553; 188 USPQ 7 (CCPA 1975) (deleting a prior art switch member and thereby eliminating its function was an obvious expedient)."

Haque '022 fails to provide any reasonable basis for omission of one of the disclosed electrodes, without omission of the electrode function, and employment of the substrate (to be coated) in place of one of the electrodes, as in the present invention. Consequently, this is a second basis for the withdrawal of the above-noted rejections based on Haque '022.

A third basis for the withdrawal of the above-noted rejections based on Haque '022 is the clearly stated preference in Haque '022 for use of an "AC" power source, in contrast to the claimed DC power source used in the present invention. As noted above, Haque '022 discloses that DC glow discharge systems are generally "poor"

and difficult to reproduce. In this regard, it is noted that although MPEP 2123 states that non-preferred embodiments of a prior art reference constitute prior art, it is clear that Haque '022 prefers the AC power source over the DC power source because of distinctly identified disadvantages associated with using the DC power source which establishes that Haque '022 fails to recognize the advantages associated with the present invention. Consequently, significant patentable distinctions exist between the present invention and Haque '022.

Distinctions between the Present Invention and Haque '641

Haque '641 discloses a three-step plasma treatment method in which a substrate material is sequentially exposed to a plasma of oxygen, a plasma of hydrocarbon monomer, and a second plasma of oxygen as noted at column 2, lines 38-47. The apparatus employed includes a vacuum chamber 12 having two electrodes 16 and 18 together with a substrate material 14 therein.

Haque '641 fails to disclose or suggest providing the combination of both a polymerizable gas and a non-polymerizable gas into a chamber for forming a plasma to coat a substrate as in the method of the present invention. A review of the disclosure and examples in Haque '641 indicates that the plasma gases are

essentially homogenous and do not include mixtures with significant portions of both polymerizable and non-polymerizable gases as in the method of the present invention. Haque '641 also fails to disclose or suggest using a substrate material in place of one of the described two electrodes. Thus, Haque '641, like Haque '022, fails to recognize the advantages of the present invention associated with employing the substrate material in place of one of the electrodes. Therefore, patentable distinctions exist between the present invention and Haque '641.

Distinctions between Present Invention and Kleeberg '290

Kleeberg '290 discloses a method for generating glow polymerisate layers from hydrocarbons and/or fluorocarbons. The method employs a device which includes a discharge tube 1 of glass having a discharge chamber 2, with two electrodes 3 and 4 arranged outside of the tube 1. A substrate 5 is disposed in the chamber 2 for being coated.

Kleeberg '290 fails to disclose or suggest employing electrodes within a polymerization chamber as in the method of the present invention. Kleeberg '290 also fails to disclose or suggest employing a substrate to be coated in place of one of the electrodes as in the method of the present invention. Kleeberg

'290 is farther removed from the present invention than either of the Haque '022 or Haque '641 documents discussed above. Consequently, significant patentable distinctions exist between the present invention and Kleeberg '290.

Provisional Double Patenting Rejection

Claims 1, 23-25, 28 and 29 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 35-37, 40 and 42 of co-pending Application No. 09/529,052.

It is requested that the Patent Examiner hold the above-noted rejection in abeyance until one of the applications is placed into condition for allowance since the scope of the claims of both of these pending applications may change over time.

Conclusion

It is submitted for the reasons stated above that the present claims define patentable subject matter such that this application should now be placed condition for allowance.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants hereby petition for an extension of three (3) months

Appl. No. 09/509,725
Attorney Docket Number 0630-2009PUS1

to May 26, 2004, in which to file a reply to the Office Action. The required fee of \$475.00 is enclosed herewith.

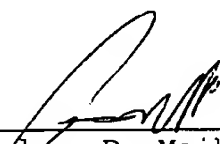
If any questions arise regarding the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By


Andrew D. Meikle, #32,868

ADM:gmh

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000